



**WASHINGTON'S AGRICULTURAL
FRUIT CHEMICAL USAGE, 2005**
NATIONAL AGRICULTURAL STATISTICS SERVICE
United States Department of Agriculture
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General

Chemical usage data for selected Washington fruit crops are presented in the accompanying releases. These data are the results of the Fruit Chemical Usage Survey that was conducted in the fall of 2005. This survey was designed to collect data on pesticides applied to selected fruit crops in 2005. A sampling of producers in major fruit growing states across the United States was chosen to establish the estimation base. The probability nature of the survey allowed for estimates that are representative of chemical use on all targeted fruits in each of the participating states. Survey results include estimates of the percent of area treated, number of applications, rates per application, rates per crop year, and total pounds of chemical applied. Data are summarized for the active ingredients of pesticides and other chemicals applied. Pesticide data were collected for specific formulations of trade name products and then converted to active ingredients. Therefore, the estimates associated with a particular active ingredient may represent applications of several trade name products. Pesticide application rates also reflect partial coverage applications as a result of band, spot, and alternate row spraying techniques. This survey excludes any chemical treatments applied to the fruit after harvest. Chemical use information for fruits is collected in odd numbered years, while vegetables are collected in even numbered years.

Targeted crops in Washington included apples, pears, sweet cherries, grapes, and raspberries. Chemical use releases for all five crops surveyed in Washington, and crops surveyed in other states, are available upon request or via the Internet. Thanks are given to the many Washington fruit producers and contractors who provided the information summarized in these reports. Detailed reports, such as these, would not be possible without their voluntary cooperation.

Terms and Definitions

Active ingredient refers to the mechanism of action in pesticides which kills or controls the target pests. Usage data are reported by pesticide product and are converted to an amount of active ingredient. A single method of conversion has been chosen for active ingredients having more than one way of being converted. For example, in this report, copper compounds are expressed in their metallic copper equivalent, and others such as 2,4-D and glyphosate are expressed in their acid equivalent. **Allelopathic** is the release of chemical compounds from a plant that will inhibit the growth of another plant, such as weeds.

Agricultural chemicals refer to the active ingredients in fertilizers and pesticides. **Pesticides** include any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant. Pests targeted by pesticides include weeds, insects, fungi, and other forms of life.

Herbicides, insecticides, fungicides, and other chemicals make up the four classes of pesticides presented in this report. Miticides and nematocides are included as insecticides, while soil fumigants, growth regulators, defoliants, and desiccants are included as other chemicals. This report excludes pesticides used for seed treatments and for post-harvest applications to the commodity.

Bearing acres is the area of fruit, nut, berry, and vine crops that have reached a commercially productive bearing age. This age varies by crop, area, and producer. **Nonbearing acres** is the area of young plants that are considered by a grower to have not yet reached a commercially productive age. **Crop year** refers to the period immediately following harvest of the previous crop through harvest of the current crop.

Application rates refers to the average number of pounds of a fertilizer primary nutrient or pesticide active ingredient applied to an acre of land in one application. The rate reflects the effect of band, spot, or alternate row middle spraying. **Rate per crop year** is the average number of pounds applied of an ingredient to one acre of land over the entire crop year, counting multiple applications. **Number of applications** is the average number of times a treated acre receives a specific primary nutrient or active ingredient. **Area applied** represents the percentage of crop acres receiving one or more applications of a specific primary nutrient or active ingredient. This report does not contain **acre treatments**. However, acre treatments can be calculated by multiplying acres planted by the percent of area applied and the average number of applications.

Trade name is a trademark name given to a specific formulation of a pesticide product. A formulation contains a specific concentration of the active ingredient, carrier materials, and other ingredients such as emulsifiers and wetting agents. Some formulations as in the case of pre-mixes, can contain more than one active ingredient. **Common name** is an officially recognized name for an active ingredient. This report shows active ingredient by common name.

Class, Common Name, and Trade Name

The following is a list of the common name, associated class and trade name of active ingredients in this publication. The classes are herbicides (H), insecticides (I), fungicides (F), and other chemicals (O). This list is provided as an aid in reviewing pesticide data. Pre-mixes are not cataloged. The list is not complete for all pesticides used on fruit crops, and NASS does not mean to imply the use of the specific trade name.

CLASS	COMMON NAME	TRADE NAME
H	2, 4-D	Envy 2,4-D, Unison
H	2,4-D BEE	Crossbow, Weedone 638 (USE-4296)
H	2,4-D dieth sal	Hi-Dep, Weedar 64A
H	2, 4-D, dimeth. salt	2,4-D Amine 4, Dri-Clean, Formula 40, Green Light Wipe Out, Hi-Dep, Saber, Savage, Weedar 64, Weedaxe Herbicide
I	Abamectin	Abba, Agri Mek 0.15EC, Clinch Ant Bait, Epi-mek 0.15 EC
O	Acequinocyl	Kanemite 15 SC
I	Acetamiprid	Assail 70 WP
I	Aluminum phosphide	Fumiphos, Fumitoxin Tablets (55%), Gastoxin Tablet Phostoxin
I	Azadirachtin	Agroneem, Aza-Direct, Ecozin 3% EC, Neemix 4.5
I	Azinphos-methyl	Azinphos-M 2 EC, Azinphos-M 50 WP, Azinphosmethyl 50W, Guthion 2L, Guthion 35% WP, Guthion 3F, Guthion Solupak 50%, Sniper 50W
F	Azoxystrobin	Amistar, Quadris
F	Bacillus pumilus	Sonata AS
F	Bacillus subtilus	Serenade Biofungicide (WP), Serenade MAX, Serenade WP Biofungicide
F	Basic copper sulfate	Basic Copper Sulfate, Bonide Garden Dust, C-O-C-S WDG, CSC Copper Sulfur Dust, Cop-O-Zinc, Nu-Cop WDG, Nutra-Spray 17 ¹ 2-4-4, Nutra-Spray Copper Bordeaux, Tri-Basic Copper
F	Benomyl	Benlate, Benlate 50 DF, Benlate PNW, Benlate SP
I	Benzoic acid	Intrepid 2F, Intrepid 80 WSP
O	Benzyladenine	Accel PGR, Exilis Plus, Fascination Plant Growth Regulator, Maxcel, Perlan PGR, Promalin PGR, Typy
I	Bifenazate	Acrامة 50WS
I	Bifenthrin	Attain Total Release, Brigade WSB 10WP, Capture 2E, Discipline 2EC
F	Boscalid	Endura (70WG), Pristine
I	Bt subsp. kurstaki	Biobit FC, Biobit HP WP, Britz BT Dust, Condor, Crymax WDG, Deliver, Dipel 10G, Dipel 2X (WP), Dipel DF, Dipel ES, Dipel SG Plus, Dipel WP, Javelin ECB, Javelin WG, Javelin WG (USE-1142), Lepinox WDG, MVP II Bioinsecticide, Thuricide 48 L Thuricide Bt
I	Buprofezin	Applaud 70WP, Centaur, Courier
F	Butanone	Triadimefon 50% DF
O	Butenoic Acid Hydro.	ReTain
F	Calcium polysulfide	Lime Sulfur Solution, Oil & Lime Sulfur Spray, Orthorix Spray, Polysul, Sulforix, Tetrasul 4s5
F	Captan	Agway Fruit Tree Spray, Captan 4L, Captan 50W, Captan 80 WDG, Captan 80-WP, Captan Sulfur 10-50 Dust, Captec 4L, Captevat 68 WDG, Ortho Home Orchard Spray
I	Carbaryl	Carbaryl 4L, Carbaryl 50W, Carbaryl 80S, Meta Carbaryl 2-4 Snail Pellets, Sevin 10%, Sevin 4F, Sevin 5 Pellets, Sevin 50W, Sevin 80S, Sevin 80WSP, Sevin Bait (5%), Sevin Liquid, Ortho, Sevin SL, Sevin XLR Plus, Furadan 15G, Furadan 3G, Furadan 4F
H	Carfentrazone-ethyl	Synchrony STS
O	Chlorophacinone	InLine, MBC 67-33, Telone C-17
F	Chlorothalonil	Bravo ZN, Chloronil 720, Chlorothalonil 4L, Chlorthalonil 720 F, Echo 720, Echo 90DF, Ensign Zn (aka Bravo 500), Equus 500 ZN, Equus 720, Equus 720 SST, Equus DF, Ridomil Gold + Bravo Liquid
I	Chlorpyrifos	Chlorpyrifos 4E AG, Dursban 1% Granules, Govern 4E, Lorsban 15G, Lorsban 4E, Lorsban 4E (USE-1069), Lorsban 50W, Lorsban 75WG, Nufos 4E, Warhawk, Whilwind, Yuma 4E
I	Clofentezine	Apollo 42%, Apollo SC
I	Clothianidin	Clutch 50 WDG
F	Copper chloride hyd.	Agra-cop 50 WP, Microperse COC 50 DF
F	Copper hydroxide	Blue Shield WP, Champ Dry Prill, Champ Flowable, Champ Formula 2, Champ Formula II DF WSP, Champion Flowable
		Champion WP, Coppercide 50, Kocide 101 (WP), Kocide 20/20 (WP), Kocide 2000, Kocide 4.5 LF, Kocide DF, Kocide LF, Kop-Hydroxide 50, Nu-Cop 3L, Nu-Cop 50DF
F	Copper oxide	Nordox, Nordox (WP)
F	Copper oxychlo. sul.	C-O-C-S 15 Sulfur 25, C-O-C-S 50WP, C-O-C-S Copodust, Oxcop Dust #3
F	Copper oxychloride	C O C WP, C-O-C-S WDG, CSC Copper Sulfur Dust
F	Copper resinate	Camelot, Copper Fungicide 4E, Tenn-Cop 5E
F	Copper sulfate	Basicop, Copper Sulfate, Copper Sulfate Powdered Bluestone
I	Cryolite	Cryolite 50 Dust (Use 1325), Cryolite 96 Dust, Cryolite WP (84.5%), Kryocide (96% dry)
O	Cyanamid	Dormex
I	Cyd-X Granulo. Virus	CYD-X, Carpovirusine, Virosoft Bioinsecticide
F	Cyprodinil	Switch 62.5WG, Vanguard WG
O	Cytokinins	Cytokin Bioregulator Concentrate, Cyzer Plant Growth Regulator, Stimplex
I	Diazinon	D-264 EC500, D-z-n Diazinon 50W, D-z-n Diazinon AG500 (4E), Diazinon 25% Spray (2EC), Diazinon 4 Spray, Diazinon 40WP, Diazinon 4E, Diazinon 50W, Diazinon AG500 (4E), Diazinon AG600 WBC, Spectracide 25
O	Dichloropropene	InLine, Telone C-17, Telone II
I	Dicofol	Dicofol 4 E, Kelthane 50 (WP), Kelthane EC, Kelthane MF
I	Dimethoate	Cygon 267, Cymate 267, Digon 400, Dimate 4EC, Dimate 4EC (USE-1212), Dimethoate 2.67 EC, Dimethoate 25WP, Dimethoate 400, Dimethoate 4EC, Dimethoate 5 lb., Dimethoate E-267
H	Diuron	Direx 4L, Direx 80DF, Diuron 4L, Diuron 80DF, Diuron 80W, Karmex DF, Krovar I DF, Krovar II DF
O	Dodecadien-1-ol	3M MEC-CM Sprayable Pheromone, Checkmate CM, Checkmate CM Puffer Dispenser, Checkmate CM-F, Isomate-C Pheromone, Isomate-C Special, Isomate-C TT, Last Call CM, NoMate CM Spiral, Puffer CM (USE-9371)
O	Dodecanol	Isomate-C Pheromone, Isomate-C Special, Isomate-C TT

CLASS	COMMON NAME	TRADE NAME
F O I I O I I I F F I F I I F	Dodine E-8-Dodecenyl acetat Endosulfan Esfenvalerate Ethephon Ethyl parathion Etoxazole Fenamiphos Fenarimol Fenbuconazole Fenbutatin-oxide Fenhexamid Fenpropathrin Fenpyroximate Ferbam	Cyprex 65-W, Dodine 65W, Syllit 65W, Syllit FL Checkmate OFM, Checkmate SF-200, Consep OFM Spr2m Pheromone Sprayable, Isomate – OFM TT, Isomate M Pheromone, Isomate-M 100 Endosulfan 3EC, Endosulfan 50W, Endosulfan 50WP (Use-1231), Thiodan 3EC, Thiodan 50WP, Thiodan Hi-Yield Insect Spray, Thionex (Thiodan) 3EC, Thionex 50W Asana, Asana XL Ethephon 2, Ethephon 6, Ethrel Plant Regulator (2EC) Aqua 8 Parathion, Parathion 25W, Phoskil 15 WP TetraSan 5 WDG, Zeal (aka Secure) Nemacur 15G, Nemacur 3 Turf, Nemacur 3E Rubigan A.S., Rubigan EC Enable 2F, Indar 75 WSP Vendex 4L, Vendex 50WP Captevate 68 WDG, Decree 50 WDG, Elevate 50 WDG Danitol 2.4 EC Spray FujiMite Carbamate 76WDG, Ferbam Granuflo
F H I F I O O H H H O I	Fludioxonil Flumioxazin Formetanate hydro. Fosetyl-al Gamma-cyhalothrin Gibberellic acid Gibberellins A4A7 Glufosinate-ammonium Glyphosate amm. salt Glyphosate iso. salt Harpin protein Hexythiazox	Switch 62.5WG Chateau WDG (USE 4409), Valor WP Carzol SP Alette (80WP), Alette WDG Proaxis Falgro 20SP, Falgro 4L, GA3 4%, GibGro 20% Powder, GibGro 2LS, GibGro 4LS, Gibbex 4%, Pro Gibb 4%, ProGibb 40%, ProGibb Plus 2X, ProVide Plant Growth Regulator, RyzUp Accel PGR, Fascination Plant Growth Regulator, Perlan PGR, Promalin PGR, TypRus Plant Growth Regulator, Typy Finale, Liberty, Rely Herbicide, Rely Herbicide (aka Ignite 1SC) Credit Duo Extra, Glyphosate-4DS, Roundup Ultra Dr Bronco (4EC), Buccaneer Herbicide, ClearOut 41 Plu Cornerstone, Credit, Credit Duo Extra, Fire Power, Gly Star Original Gly Star Plus, Gly-4 Plus, Gly-Flo Herbicide, Glyphos X-TRA, Glyphomax, Glyphomax Plus, Glyphosate 4, Glyphosate Original, Glyphosate-4DS, Helosate Plus, Honcho, Jury, Landmaster II, Mad Dog Glyphosate, Mirage (4EC), Protocol, Rattler, Ready Master ATZ, Roundup Custo, Roundup Export, Roundup Original, Roundup Original II, Roundup Original Max, Roundup Pro, Roundup Ultra, Roundup Ultra Max, Roundup UltraMax II, Roundup Weather Max Messenger STS Hexygon DF, Onager, Savey 2E (aka Onager), Savey 50 DF, Savey 50 WP
I I F I F I I F F F	Imidacloprid Indoxacarb Iprodione Kaolin Kresoxim-methyl Lambda-cyhalothrin Malathion Mancozeb Maneb Mefenoxam	Admire 2 Flowable, Admire Pro, Merit 75 WP, Provado 1.6 Flowable, Provado Solupak (75WSP) Avaunt Insecticide Iprodione 4L, Iprodione 50WP, Rovral (50WP), Rovral 4 Flowable, Sextant (2L) Kaolin, Surround WP Sovran Silencer (aka Lambda-CY 1EC), Warrior, Warrior (Use-1553) Agway Fruit Tree Spray, Atrapa 5E, Cythion ULV (9.33 lbs), Fyfanon, Fyfanon ULV 9.9 lbs. (96.5%), Malathion 25 WP, Malathion 5 Dust, Malathion 5 EC (55%), Malathion 5 EC (57%), Malathion 8 Flowable, Malathion 8E, Malathion Aquamul (8E), Malathion Spray 50%, Malathion ULV 9.7lbs. (95%), Ortho Home Orchard Spray Dikar (WP), Dithane 75DF Rainshield, Dithane DF (Use-7127), Dithane F-45 Rainshield, Dithane M-45 (WP) Dithane T/O, Dithane WF Turf & Ornamental (4L), Mancozeb 80% WP, Manex II (4EC), Manzate 200 (WP) Manzate 75DF, Manzate 75DF (USE-7025), Manzate Flowable, Penncozeb (80WP), Penncozeb 75DF, Pentathlon DF, Protect T/O (Turf and Ornamental), Ridomil Gold MZ Amazin (80WP), Dithane M-22 Dust, Dithane M-22 Special (80WP), Maneb 75DF, Manex, Manex (USE-7064) Ridomil Gold + Bravo Liquid, Ridomil Gold EC, Ridomil Gold MZ, Ultra Flourish
F I I I O I I F O F I O O O H I	Metalaxyl Methidathion Methomyl Methoxychlor Methyl anthranilate Methyl bromide Methyl parathion Metiram Monocarbamide dihyd. Myclobutanil Myrothecium verruc. NAA NAA Potassium salt NAD Norflurazon Novaluron	Ridomil 2E, Ridomil 5G Supracide 25WP, Supracide 2E Lannate L (1.8 lbs.) Canceled 1998, Lannate LV (2.4 lbs.), Lannate SP Agway Fruit Tree Spray, Ortho Home Orchard Spray Bird Shield, ReJex-iT, AG-145 Bird Repellent (14.5%) MBC 67-33, Methyl Bromide 98%, Methyl Bromide 99.5 Methyl Parathion 4EC, PennCap-M Polyram 80 DF, Polyram 80WP Engame, Wilthin Laredo EC, Nova 40W, RH-144228, Rally 40W DiTera DF Biological Nematicide, Ditera Biological Nematicide Alphaspra 200, Alphaspra 800, Fruit Fix Concentrate 800, Fruitone-N, Liqui-Stik Concentrate, NAA 2% WP, NAA-200, NAA-80 Stop Drop Fruit Fix 200, Fruit Fix 800 Amid-Thin W Predict, Solicam DF Rimon 0.83EC

CLASS	COMMON NAME	TRADE NAME
O	Octadecadien (E,Z)	Isomate – LPTB, Isomate-P Pheromone
O	Octadecadien (Z,Z)	Isomate – LPTB, Isomate-P Pheromone
H	Oryzalin	Oryza AG, Oryzalin 4 A.S., Surflan 75WP, Surflan A
I	Oxamyl	Vydate L
H	Oxyfluorfen	Fire Power, Goal 1.6E, Goal 2XL, Goaltender
F	Oxytetracycline	Mycoshield, Mycoshield (WP)
F	PCNB	Defend 10G, Scotts Proturf FF II, Terraclor 6.5% Plus Di-Syston 6.5% G
H	Paraquat	Cyclone Concentrate, Gramox Extra (Misnumbered, a Herbicide), Gramoxone Extra, Gramoxone Max, Gramoxone Super, Starfire (1.5L)
H	Pendimethalin	Pendimax 3.3, Pendulum 2G, Prowl (4EC), Prowl 3.3 EC, Prowl H2O
I	Permethrin	Ambush, Ambush 25W, Last Call CM, Perm-UP 3.2 EC, Permethrin 3.2 AG, Permethrin 3.2 EC
I	Petroleum distillate	Pounce 25WP, Pounce 3.2EC
I	Petroleum oil	Citrus Soluble Oil, Damoil, Dormant Emulsion Oil, Dragon Horticultural Spray Oil, Gavicide C, Gavicide Super 90, JMS Stylet-Oil, JMS Stylet-Oil (Use-1222), Oil, Saf-T-Side, Sunspray 11E, Sunspray 6E, Sunspray Ultra-Fine Spray Oil, Superior Oil, Supreme Oil Spray, Volck Supreme Spray
I	Phosmet	Biocover UL, Damoil Dormant Oil Spray, Mite-e-Oil
I		Imidan 12.5%, Imidan 50-WSB, Imidan 70 WSB (WP)
F	Phosphorous acid	Agri-Fos Systemic Fungicide, Fosphite Fungicide, Phostrol, Prophyt, Topaz
I	Piperonyl butoxide	Evergreen Crop Protection EC 60-6, PBO-8 (EC), Pyrenone Crop Spray, Pyroicide Emulsifiable 60-6
F	Potassium bicarbon	Armicarb 100, Kaligreen (WP), MilStop Broad Spectrum Foliar Fungicide
F	Potassium phosphate	Ekspunge
I	Potassium salts	Insecticidal Soap 49.52CF, M-Pede, Safer Insecticidal Soap
O	Prohexadione calcium	Apogee PGR
I	Propargite	Comite, Omite 30WS, Omite 6E
F	Propiconazole	Bumper 41.8 EC, Orbit (3.6EC), Orbit 45 WP, PropiMax EC, Tilt
F	Pseudomonas fluores.	BlightBan A506, Frostban B (71% WP)
F	Pyraclostrobin	Cabrio EG, Headline, Pristine
I	Pyrethrins	Bonide Garden Dust, Evergreen Crop Protection EC 60-6, Evergreen Growers Spray, NEU1161, PyGanic EC 1.4 I, PyGanic EC 5.0 II, Pyrellin E.C., Pyrenone Crop Spray, Pyroicide Emulsifiable 60-6
I	Pyridaben	Nexter, Pyramite, Sanmite 75 WP
F	Pyrimethanil	SCALA SC
I	Pyriproxyfen	Esteem 35 WP, Knack (aka Esteem 0.86EC), Seize 35 WP
F	Quintec	Quintec
H	Sethoxydim	Poast, Poast HC, Poast Micro Flo, Poast Plus, Torpedo Herbicide
H	Simazine	Princep 4L, Princep 4L TO, Princep 80W, Princep Caliber 90, Sim-Trol 4L, Sim-Trol 90DF, Simazine 4L, Simazine 80W, Simazine 90 WDG, Simazine 90DF
O	Sodium tetrathiocarb	Enzone
I	Spinosad	Entrust, GF-120 NF Naturalyte Fruit Fly Bait, NAF-550 Fruit Fly Bait, SpinTor 2SC, Success
O	Spirodiclofen	Envirdor 2 SC
F	Streptomycin	Agri-Mycin 17, Agri-Strep (17WP), Agri-Strep 500 (50WP), Streptomycin 3000 Dust
F	Streptomycin sulfate	Firewall 17 WP, Flame Out, Streptomycin sulfate
O	Strychnine	Cooke Gopher Mix, Gopher Getter AG Bait, Strychnine 1.8%, Strychnine Bait (.35%), Strychnine Bait (.5%)
H	Sulfosate	Touchdown 5, Touchdown 6
F	Sulfur	Alfa (97WP), Bonide Garden Dust, C-O-C-S 15 Sulfur 25, CSC Copper Sulfur Dust, Golden-Dew, Kumulus DF, Microfine Sulfur, Microspense Wettable Sulfur, Microthiol Disperss, Microthios Disperss (USE-7449), Microthiol Special, RH-144228, Redball EM-53 Liquid Sulfur, Special Electric Dusting Sulfur, Sulfur (92%), Sulfur 6L (52%), Sulfur 90W, Sulfur DF (80%), Sulfur Dusting (90%), Sulfur Dusting (92%), Sulfur Dusting (98%), Sulfur Flowable (6F), Sulfur Wettable Powder (95%), Sulfur, Dual Spraying and Dusting, Super Six, Super-Sul (80WP), That Flowable Sulfur (52%L), Thiolux (80DF)
F	Tebuconazole	Elite 45 DF
I	Tebufenozide	Confirm 2F
H	Terbacil	Sinbar (80WP)
O	Tetradecanol	Isomate-C Pheromone, Isomate-C Special, Isomate-C TT
O	Tetradecen-1-OL (Z)	3M Pheromone-Mating Disruption, Checkmate OLR-F, Isomate OBLR/PLR, Isomate-C Special
O	Tetradecen-1-yl (E)	Checkmate OLR-F
I	Thiacloprid	Calypso
I	Thiamethoxam	Actara, Centric, Platinum
F	Thiophanate-methyl	Scotts Fungicide IX, T-Methyl 70W WSB, Thiophanate Methyl 85 WDG, Topsin M 4.5F, Topsin M 70WP, Topsin M 85 WDG, Topsin M WSB
F	Thiram	Thiram 65WP, Thiram 75 WP
F	Triadimefon	Bayleton 009 EC T&O Fungicide, Bayleton 25 T&O, Bayleton 50% DF
F	Trifloxystrobin	Flint, Gem
F	Triflumizole	Procure 50WS, Procure 50WS (Use 7242)
H	Trifluralin	Treflan HFP, Trifluralin 4 (EC), Trilin, Trilin 5
O	Z-8-Dodecanol	Checkmate OFM, Checkmate SF-200, Consep OFM Spr2m Pheromone Sprayable, Isomate – OFM TT, Isomate M Pheromone, Isomate-M 100
O	Z-8-Dodecen acetate	Checkmate OFM, Checkmate SF-200, Consep OFM Spr2m Pheromone Sprayable, Isomate – OFM TT, Isomate M Pheromone, Isomate-M 100
O	Zinc phosphide	ZP Rodent Bait AG, Zinc Phosphide Oat Bait
F	Ziram	Ziram 76 DF, Ziram 87.3 WP, Ziram F-4, Ziram Granuflo